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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,607	10/15/2003	Fred D. Ehrman	2003U030.US	5099

7590 09/27/2005

Univation Technologies, LLC
Suite 1950
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Houston, TX 77056

EXAMINER

RABAGO, ROBERTO

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,607

Applicant(s)

EHRMAN ET AL.

Examiner

Roberto Rábago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 and 15-41 is/are rejected.
- 7) ☒ Claim(s) 14 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/7/04</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/7/2005 has been entered.
2. Prior rejections under 35 USC 102 are withdrawn in view of amendment. Except with respect to claim 14, the remarks of item 4 of the Office action mailed 5/25/2005 are withdrawn in view of newly located references applied against the instant claims as set forth below.

Claim Rejections - 35 USC § 102

3. Claims 1-5, 7, 8, 17-19, 22-31, 35-39 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Mawson et al. (US 20020161141).

The reference discloses at paragraph 0317 the use of a bimetallic catalyst for olefin polymerization in a gas phase reactor comprising oxygen as an catalyst activity modifier, wherein the oxygen is added through the recycle line, and includes all limitations of at least claims 1-5, 7, 8 and 19. Olefins (claim 17) are disclosed in the first

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sentence of the specification. The parameters of claim 18 would be immediately envisaged by one of ordinary skill in the art because applicants have claimed virtually the whole of conventional conditions under which gas phase reactors are run. The parameters of claims 22-25 and 27-29 would be immediately envisaged by one of ordinary skill in the art because applicants have claimed virtually the entire range of conventional properties expected for olefin polymers made with bimetallic single-site catalyst compositions which include metallocenes. Pipes, films and moldings of the disclosed polymer are discussed in paragraph 0393. Regarding claims 26, 30 and 31, 37-39 and 41, patentee has not reported the claimed values, however, the required differences in melt flow appear to be inherent in view of the reference reporting that significantly less polymer from the bisindenyl $ZrCl_2$ is produced after the oxygen is increased from 0.1 to 0.5 ppm. The burden of proof is shifted to applicants to show that the method described in the reference would not result in a polymer comprising the unreported claimed values.

4. Claims 1-5, 7-10, 17-19, 22-31, 33-36 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Kellum et al. (US 5,965,675).

The reference discloses a supported bimetallic catalyst composition for the gas phase polymerization of olefins in combination with a modifier which acts to increase the melt index of the polymer, apparently by increasing the melt index of the polymer made by the titanium component (col. 1, line 30 through col. 4, line 52, Example runs 104-106, 11-115, 120, 121). Although the reference has not measured all of the properties of

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claims 22-31, these properties appear to be inherent because applicants have claimed virtually the entire range of conventional properties expected for olefin polymers made with bimetallic catalyst compositions, and furthermore because the objective and polymerization method is substantially the same. The burden of proof is shifted to applicants to show that the reference polymers do not include the unreported claimed values.

Claim Rejections - 35 USC § 103

5. Claims 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mawson et al. (US 20020161141).

The parent claims are discussed with respect to this reference above. The adjunct use of hydrogen is disclosed at paragraph 0332-0335, and typical amounts used are shown in working examples 4-14. Aluminum alkyl cocatalysts are disclosed in paragraph 0154 and 0198. One of ordinary skill in the art would be motivated to use these embodiments because they have been recommended by patentee.

6. Claims 1-5, 7-13, 15, 16, 32-34 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mink et al. (5,525,678) in view of Mawson et al. (US 20020161141).

Mink discloses the use of water or CO₂ as catalyst activity modifiers for supported bimetallic catalysts for olefin polymerization comprising a metallocene and a Ziegler-Natta comprising group 4 transition metals (abstract, col. 2-3). Details of the

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support are found at col. 4, lines 32-62 and at col. 10, lines 43, and amounts of control agent are found at col. 3, lines 46-61. Missing from Mink is a recommendation to use one of applicants' claimed control agents. However, Mawson has disclosed a similar method of gas-phase olefin polymerization comprising a bimetallic catalyst composition wherein the modifier is oxygen, but notes that water and CO₂ have been used for essentially the same purpose (paragraph 0317). Accordingly, it is clear that oxygen would also function in the method of Mink as an activity modifier either in addition or in place of water and CO₂. Regarding claims 32-34, Mink states that the addition of the modifier reduces the amount of HMW material and therefore increases the melt flow rate, and appears to generally coincide with the claimed reductions. One of ordinary skill in the art would readily observe that ppm quantities of water, CO₂, or oxygen all serve essentially the same purpose in a method of polymerization comprising two transition metal catalysts; i.e., to depress the activity of one of the catalysts, and would therefore be motivated to use any of the three modifiers in the method of Mink.

Allowable Subject Matter

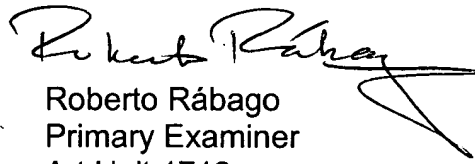
7. Claims 14 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art currently of record has not disclosed the wherein the method includes a metallocene with a fluoride leaving group.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Roberto Rábago
Primary Examiner
Art Unit 1713

RR
September 22, 2005